MULTIMEDIA   UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2016/2017

BPB2034 – PROGRAMMING FOR BUSINESS APPLICATIONS
(All sections / Groups)

13 OCTOBER 2016
2.30 p.m – 4.30 p.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 13 pages (including cover page) with 4 questions only.

2. Attempt ALL FOUR questions. All questions carry equal marks and the distribution of the marks for each question is given.

3. Please write all your answer in the question paper itself.

Question 1 (25 Marks)

1. The *Program Development Life Cycle* is a set of phases and steps that are followed by developers to define, design, develop and maintain a computer program. Order the steps in the program development cycle starting with 1 for the first step and so on.

(9 Marks)

____ Program design (devise an algorithm).
____ Test the program until it is error free.
____ Test the design.
____ Problem analysis (define the problem).
____ Determine the input and output.
____ Review the code.
____ Add new features.
____ Code the program.
____ Enter the program.

Answer

2. Design the algorithm for a program that calculates the total of a retail sale. The program should ask the user for the following: the retail price of the item being purchased, the quantity and the sales tax rate. Once the information has been entered the program should calculate and display the following: total purchase amount, the sales tax for the purchase and the total sale.
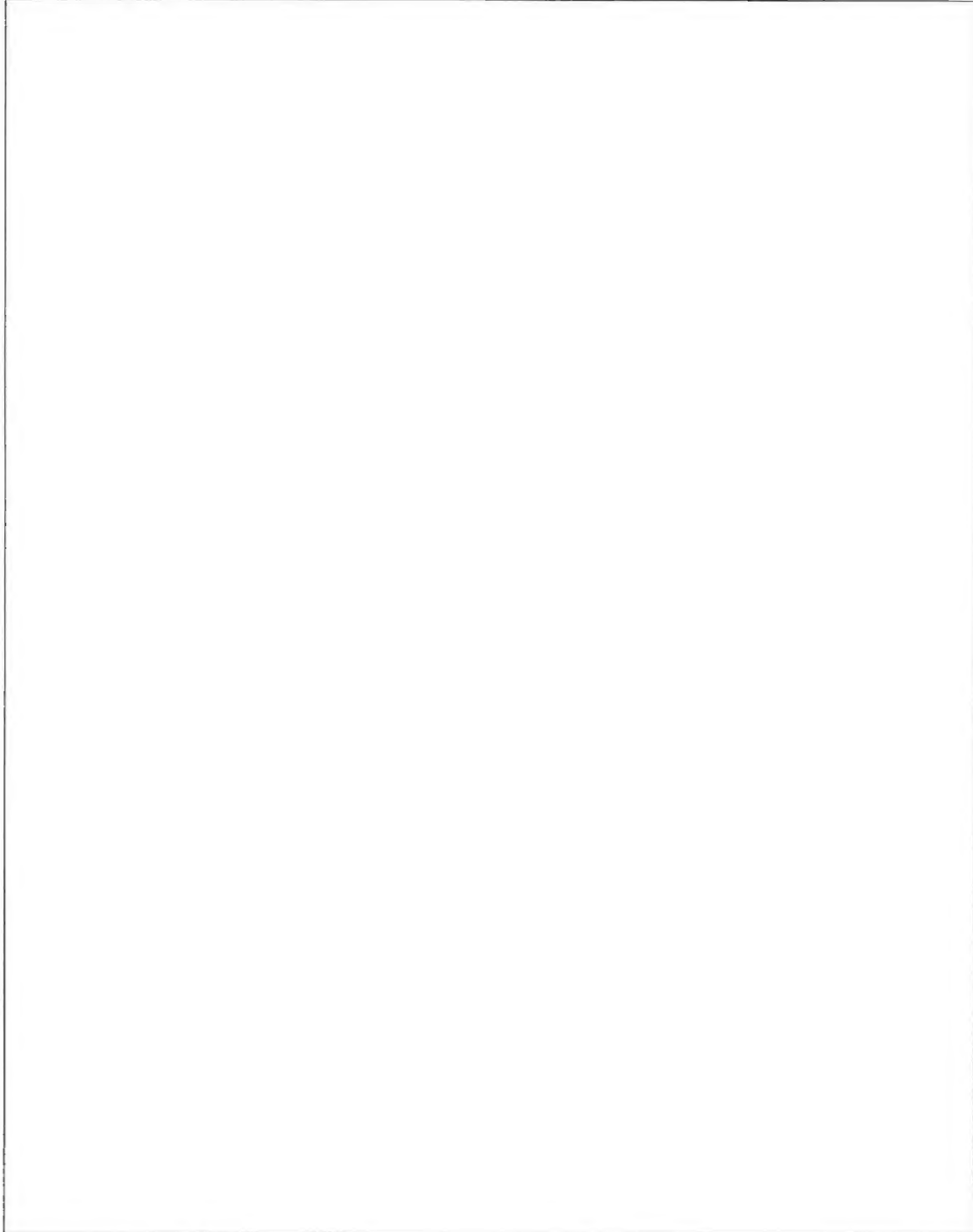
     a. Determine the input, process and output for the given problem   (6 Marks)

Answer

b. Draw the flowchart to illustrate the programing algorithm for the given problem. (10 Marks)

Answer

Continued...

Question 2 (25 Marks)

1. What will be displayed when you run the below visual basic code. Give step by step
   results using a sample input data of your choice.   (10 Marks)

```
1.  Private Sub CommandButton1_Click( )
2.  Dim StudentName(3) As String
3.  Dim StudentID(3) As String
4.  Dim StudentMark(3) As Single
5.  For i = 1 To 3
6.      StudentName(i) = InputBox("Enter student Name")
7.      StudentID(i) = InputBox("Enter student ID")
8.      StudentMark(i) = InputBox("Enter student Mark")
9.      Cells(i, 1) = StudentName(i)
10.     Cells(i, 2) = StudentID(i)
11.     Cells(i, 3) = StudentMark(i)
12. Next
13. End Sub
```

Answer

Continued...

2. What will be displayed when you run the below visual basic code. Give step by step results with brief explanation.

(5 Marks)

```
Private Sub CommandButton1_Click( )
Dim Films(1 To 5, 1 To 2) As String
        Dim i As Integer, j As Integer

        For i = 1 To 5
          For j = 1 To 2
             Films(i, j) = Cells(i, j).Value
          Next j
        Next i

        MsgBox Films(4, 2)
End Sub
```

Assume the inputs as given below;

L17 ▼	fx						
	A	B	C	D	E	F	G	H
1	Lord of the Rings	Adventure					
2	Speed	Action					
3	Star Wars	Sci-Fi				CommandButton1	
4	The Godfather	Crime					
5	Pulp Fiction	Drama					
6							
7							

Answer

Continued…

3. Write visual basic code that pop up an input box asking the user to enter a message and displays the message in a msgbox. If the user did not enter a message, the program should display "No Messages" in msgbox.   (10 Marks)

Example of input box is shown below;
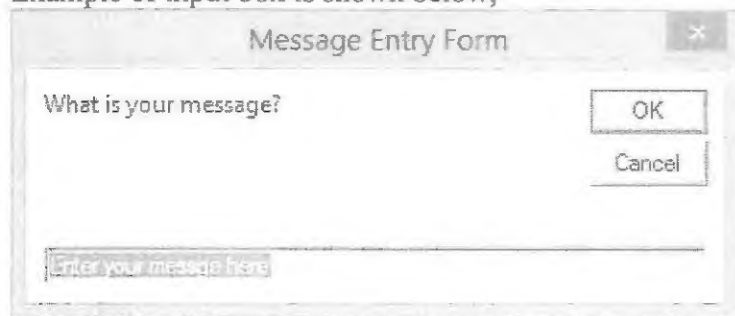
Answer

Question 3 (25 Marks)

Given below is an incomplete visual basic program that intends to read marks of midterm, assignment and final exam of a subject and calculates total marks and the grade obtained. The weightage given to the assessments are as follows; midterm 20%, assignment 30% and final 50%. Assume that all three assessments will be assessed for 100 marks (Note. You have to convert each to appropriate percentage). The grade will be calculated as per the following criteria; 90-100 (A), 80-89 (B), 70-79 (C), 60-69 (D) and below 60 is (F).

Continued...

(a) Complete the program with correct program code   (20 Marks)

```
Public Class frmGrade

Private Sub btnDetermine_Click(sender As System.Object, e As System.EventArgs)
Handles btnDetermine.Click

    ' declare variables to store input data

    Dim -----------------, -----------, --------------, ----------------- As Double

    Dim grade As String

    ' Use input box to get midterm, assignment and final marks

    midterm = ---------------------------------------------------------------

    assignment = ------------------------------------------------------------

    final = ----------------------------------------------------------------

    ' Call the function calculateTotal to calculate the total marks

        ------------------ = calculateTotal(midterm, assignment, final)

    ' Call the  function SubjectGrade to calculate the total marks

    grade = -----------------------------------------------------------------

    ' Display total marks and subject grade in a msg box

    MsgBox("Total Marks is " & ---------------------& " " & " and Grade is " & -----------
----)

End Sub

    Function calculateTotal(------------ As Double, --------------- As Double, -------- As
Double) As Double

    Dim total As Double

    total = midTerm * ---- + assignment * ------ + final * 0.5

    Return total

End Function
```

```
Function SubjectGrade(totalMark As Double) As String

    Dim score As --------------

    score = CInt(totalMark)

    Select Case ----------

        Case Is >= 90

            Return "A"

        Case Is >= 80

            Return "B"

        Case Is >= 70

            -----------------

        Case Is >= 60

            Return "D"

        Case Else

            -----------------

    End Select

End Function
```
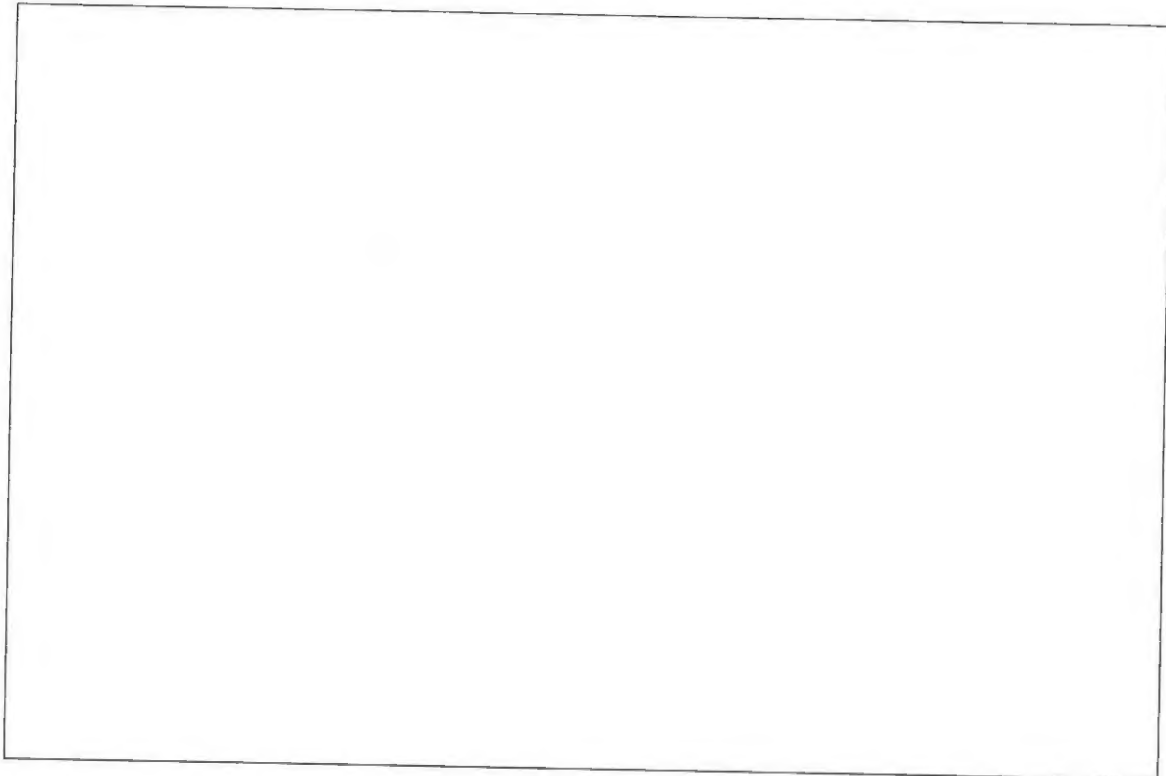
Answer
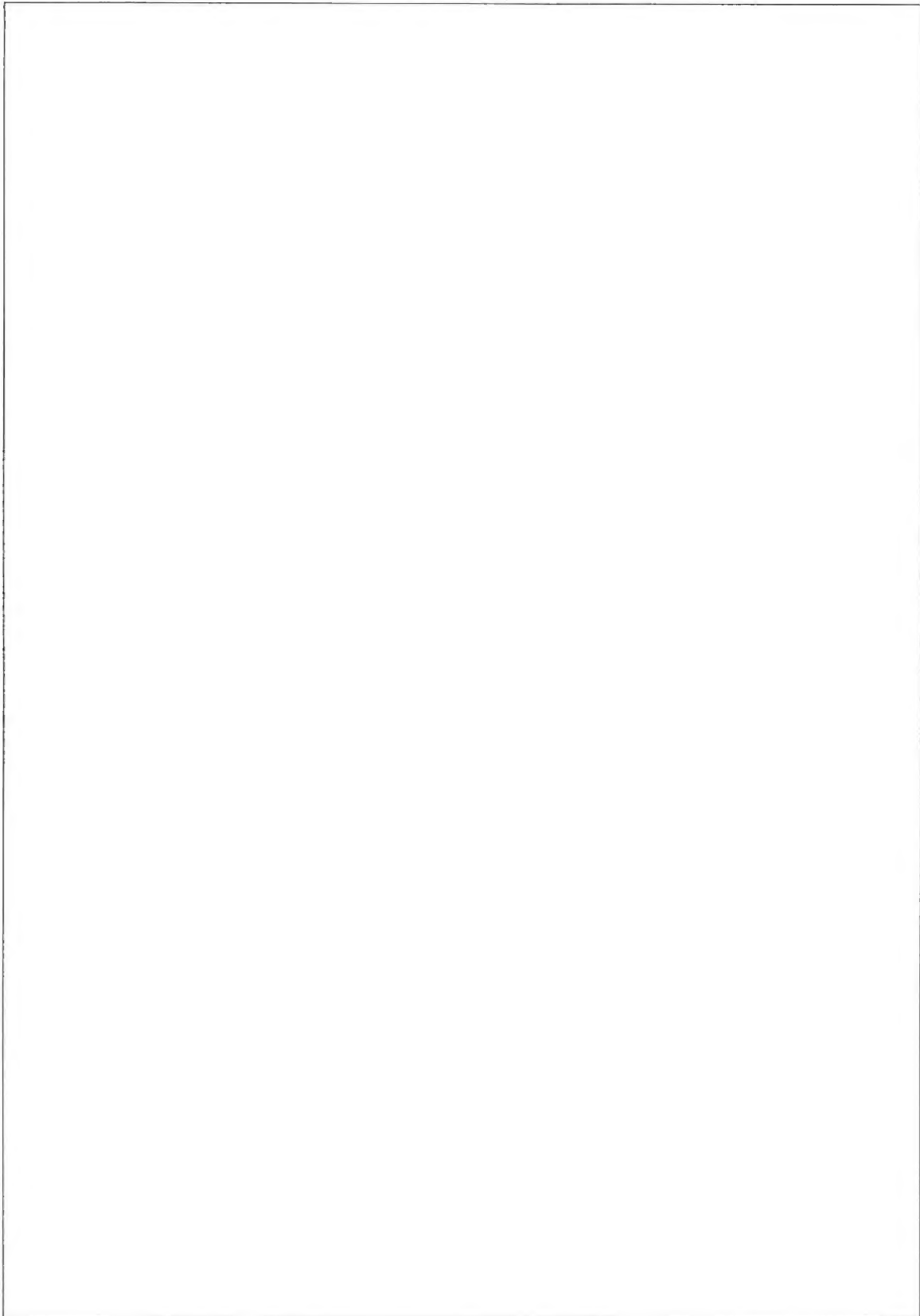
Continued...

(b) Identify the functions used in this program and their tasks   (5 Marks)

Answer

Question 4 (25 Marks)

A bookshop is having a promotion offer and gives discounts based on different criteria. The following rules determine the discount.

• Students get 10% discount.

• If purchase amount is RM100 and above, then 5% discount will be given.

Discount can aggregate, for example a student purchasing for above RM100 gets a 15% discount. The program should ask the user for input on whether they are a student and the purchase amount. 6% GST is calculated on the net amount. The result must contain the actual purchase amount, discount amount and the net amount to pay.
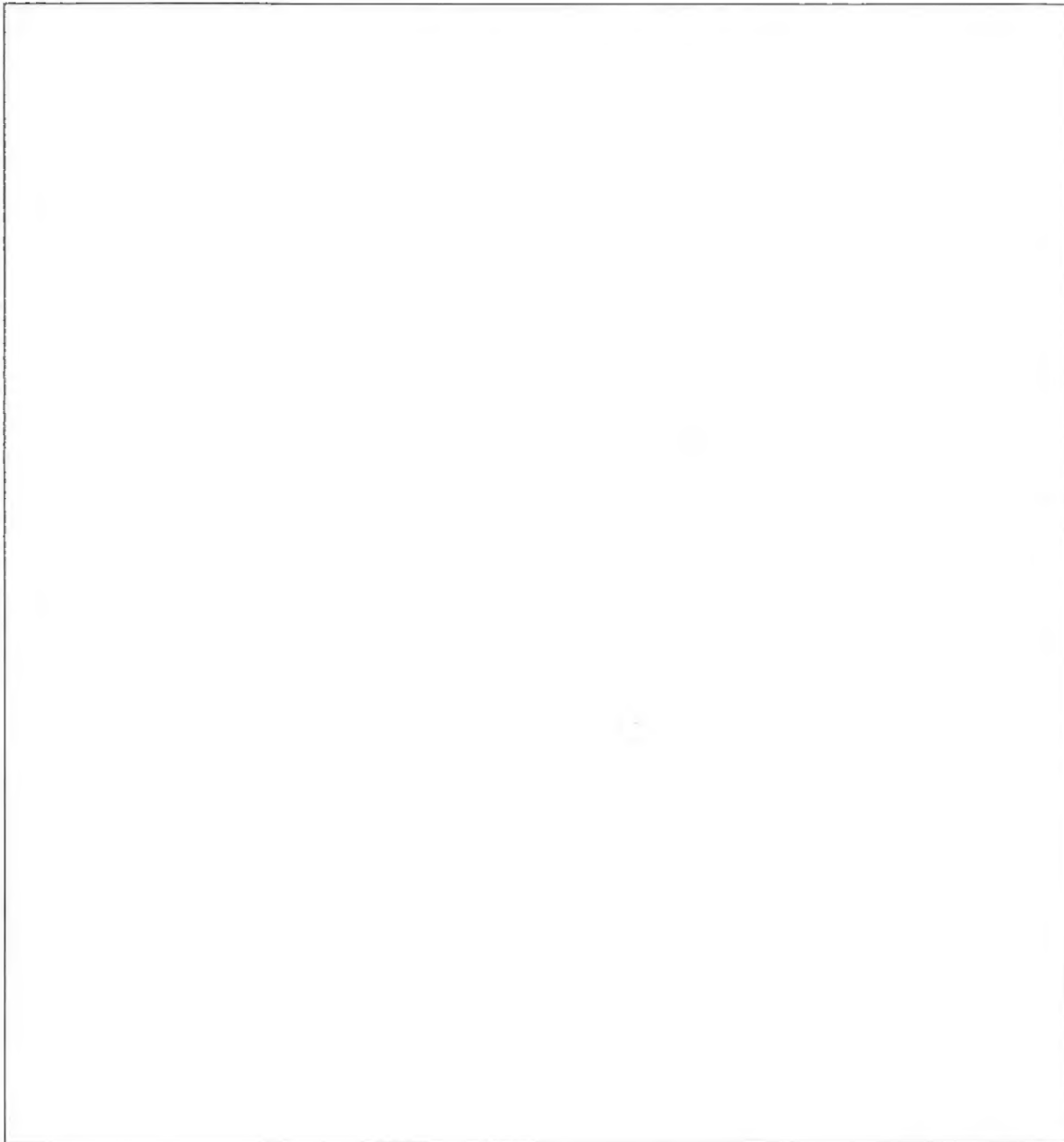
You are required to apply the programming techniques and provide solution to this business problem. The following are expected.

Continued...

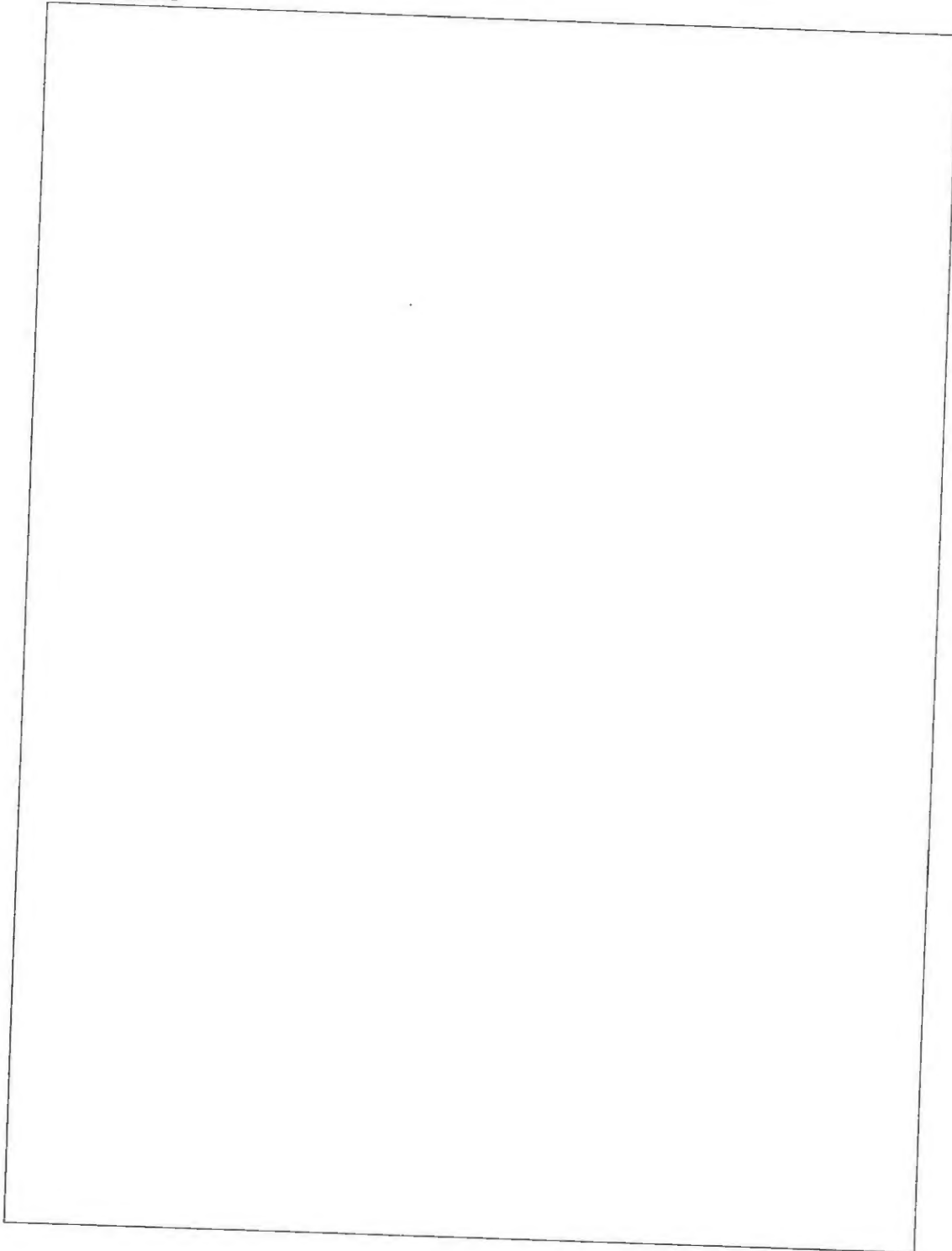a. Determine input, process and output for this problem   (5 Marks)

Answer

b. Provide a programming logic to solve this problem in the form of a flowchart.
(10 Marks)

Continued...

Answer

Continued…

c. Write visual basic code for the given problem where if a button is clicked, an input box will appear to ask inputs and display the results on a message box.

(10 Marks)

Answer

End of Page